



UNITED STATES PATENT AND TRADEMARK OFFICE

cn
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,659	08/28/2001	Hiromi Ishikawa	Q65937	4455
7590	10/06/2003			EXAMINER
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037-3202			LEE, SHUN K	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/939,659	ISHIKAWA, HIROMI	
	Examiner Shun Lee	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 28 August 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 28 August 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>082801</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to because in Fig. 12, "12a" should probably be --112a-- (37 CFR 1.84(p)(5)). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 4/1, 5, and 8/5 are rejected under 35 U.S.C. 102(e) as being anticipated by Mueller *et al.* (US 6,373,074).

In regard to claim 5, Mueller *et al.* disclose (Figs. 1-4, and 7) a radiation image read-out apparatus, comprising:

- (i) stimulating ray irradiating means (11, 20, 21, 22, ..., 29) for linearly irradiating stimulating rays (16, 41) onto an area of a stimulable phosphor sheet (15), on which a radiation image has been stored (column 4, lines 51-54), the stimulating rays (16, 41) causing the stimulable phosphor sheet (15) to emit light (17) in proportion to an amount of energy stored thereon during its exposure to radiation,
- (ii) a line sensor (12), which comprises a plurality of photoelectric conversion devices (PD1, PD2, ..., PDn) arrayed along the linear area of the stimulable phosphor sheet (15) exposed to the linear stimulating rays (16, 41), and
- (iii) sub-scanning means (71, 72, 73) for moving the stimulable phosphor sheet (15) with respect to the stimulating ray irradiating means (11, 20, 21, 22, ..., 29) and

the line sensor (12) and in a direction (A) intersecting with a length direction (B) of the linear area of the stimulable phosphor sheet (15) exposed to the linear stimulating rays (16, 41),

wherein the stimulating ray irradiating means (11, 20, 21, 22, ..., 29) comprises:

a plurality of laser diodes (LD1, LD2, ..., LDn, 20, 21, 22, ..., 29) located such that laser beams, which have been produced by the laser diodes (LD1, LD2, ..., LDn, 20, 21, 22, ..., 29) and act as the stimulating rays (16, 41), stand in a row along the length direction (B) of the linear area of the stimulable phosphor sheet (15) exposed to the linear stimulating rays (16, 41),

each of the laser diodes (LD1, LD2, ..., LDn, 20, 21, 22, ..., 29) being located in an orientation such that a beam spread direction (AP IN Fig. 3), which is normal to a junction plane, approximately coincides with the direction (B), along which the laser beams stand in a row, and

a reproduction optical device (30, 31, 32, ..., 39) such as a cylindrical lens (column 7, line 54 to column 8, line 57) for converging each of the laser beams, which have been produced by the laser diodes (LD1, LD2, ..., LDn, 20, 21, 22, ..., 29), only in a plane normal to the direction (B), along which the laser beams stand in a row, and onto the stimulable phosphor sheet (15).

In regard to claim 1, the method steps are implicit for the apparatus of Mueller *et al.* since the structure is the same as the applicant's apparatus of claim 5.

In regard to claim 4 (which is dependent on claim 1) and claim 8 (which is dependent on claim 5), Mueller *et al.* also disclose (column 7, line 54 to column 8, line

57) that the plurality of the laser diodes are located such that the laser beams, which have been produced by the laser diodes adjacent to each other among the plurality of the laser diodes, stand in a row so as to have an overlapping region, at which the laser beams overlap each other.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 4/2, 4/3, 6, 7, 8/6, 8/7, and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller *et al.* (US 6,373,074) in view of Ishiwata (US 6,157,756).

In regard to claims 6 and 7, while Mueller *et al.* also disclose a reproduction optical device, the apparatus of Mueller *et al.* lacks that the reproduction optical device comprises optical devices, each of which is located between one of the laser diodes and a cylindrical lens and scatters the laser beam having been produced by the corresponding laser diode. However, optical devices are well known in the art. For example, Ishiwata teaches (column 1, lines 6-61) it is known in the art that reproduction optical device (comprising lenses, prisms, and gratings) are used to expand a laser beam into a single line. Ishiwata also teaches (column 6, line 50 to column 7, line 15 and column 8, lines 8-15) to provide a fiber array (*i.e.*, fiber grating) in order to expand a laser beam into a uniform intensity arc (*i.e.*, line). Therefore it would have been obvious

to one having ordinary skill in the art to provide a grating in the apparatus of Mueller *et al.*, in order to expand a laser beam into a uniform intensity line.

In regard to claims **2** and **3**, the method steps are implicit for the modified apparatus of Mueller *et al.* since the structure is the same as the applicant's apparatus of claims 6 and 7.

In regard to claim **4** (which is dependent on claim 2 or 3) and claim **8** (which is dependent on claim 6 or 7), Mueller *et al.* is applied as in claims 4/1 and 8/5 above.

In regard to claims **12-14**, Mueller *et al.* is applied as in claims 5 and 8/5 above. While Mueller *et al.* also disclose a reproduction optical device, the apparatus of Mueller *et al.* lacks that the reproduction optical device comprises a cylindrical lens having a curvature varying over a lens longitudinal direction, such that a beam diameter of the linear laser beam at the linear area of the stimulable phosphor sheet exposed to the linear stimulating rays becomes uniform. However, optical devices are well known in the art. For example, Ishiwata teaches (column 1, lines 6-61) it is known in the art that reproduction optical device (comprising lenses, prisms, and gratings) are used to expand a laser beam into a single line. Ishiwata also teaches (column 6, line 50 to column 7, line 15; column 8, lines 8-15; and column 14, lines 34-49) to provide an anamorphic lens system (e.g., a cylindrical lens having a curvature varying over a lens longitudinal direction) and a fiber array (*i.e.*, fiber grating) in order to expand a laser beam into a uniform intensity arc (*i.e.*, line). Therefore it would have been obvious to one having ordinary skill in the art to provide a cylindrical lens having a curvature

varying over a lens longitudinal direction and a grating in the apparatus of Mueller *et al.*, in order to expand a laser beam into a uniform intensity line.

In regard to claims 9-11, the method steps are implicit for the modified apparatus of Mueller *et al.* since the structure is the same as the applicant's apparatus of claims 12-14.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 9-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 10/193,994 (US 2003/0010945 A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because a cylindrical lens having a curvature varying over a lens longitudinal direction is a projecting optical system having an aspheric toric surface and thus would be an obvious variation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO 99/28765 (Mueller *et al.*) is related to US Patent 6,373,074.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SL
September 24, 2003

CONSTANTINE HANNAHER
CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878